

REMARKS/ARGUMENTS

In the Office Action of October 29, 2008, claims 1-9 are rejected. Additionally, the drawings are objected to. In response, claims 1-7 and 9 have been amended. Support for the amendments to claims 1-7 and 9 is found at Applicants' specification, for example, original claims 1-7 and 9. Additionally, claims 10-15 have been added. Support for new claims 10 and 14 is found at Applicants' specification, for example, page 12 lines 12-21. Support for new claims 11 and 15 is found at Applicants' specification, for example, page 12, lines 30-32. Support for new claim 12 is found at Applicants' specification, for example, original claims 1-2, page 8, lines 9-22, and page 10, lines 23-32. Support for new claim 13 is found at Applicants' specification, for example, original claim 4 and page 10, lines 23-32. Applicants hereby request reconsideration of the application in view of the claim amendments, the new claims, and the below-provided remarks.

Objections to the Drawings

The drawings are objected to because unlabeled rectangular boxes shown in the drawings (specifically figures 3 and 4) allegedly should be provided with descriptive text labels. The current application is a U.S. National Stage application. The labeling of figures with text matter is prohibited under PCT Rule 11.11, except when absolutely indispensable for understanding. Further, MPEP 1893.03(f) states that "[t]he USPTO may not impose requirements beyond those imposed by the Patent Cooperation Treaty (e.g., PCT Rule 11)." In the present application, Applicants respectfully submit that the addition of text labels to the drawings is not "absolutely indispensable" because the individual drawing elements are identified and described in the specification. In view of the above rules, Applicants respectfully assert that additional text labeling is not required in the drawings. Thus, Applicants respectfully request that the objections to the drawings be withdrawn.

Claim Rejection under 35 U.S.C. 112

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, because claim 7 allegedly does not appear to recite any method steps. In response, Applicants have amended claim 7 to replace the term “channel correcting” with the phrase “performing channel correcting” and to add the phrase “wherein performing channel correcting includes.” Additionally, Applicants have amended claim 7 to replace the term “channel estimation” with the phrase “performing channel estimation,” to add the phrase “wherein performing channel estimation includes” and to remove the phrase “comprising slicing.” As amended, claim 7 includes two steps, “performing channel correcting” and “performing channel estimation.” Thus, Applicants respectfully request that the rejection under 35 U.S.C. 112 be withdrawn.

Claim Rejections under 35 U.S.C. 102

Claims 1-3 and 5-9 are rejected under 35 U.S.C. 102(e) as allegedly being anticipated by Sun et al. (U.S. Pat. Pub. No. 2004/0066773, hereafter Sun). In response, Applicants have amended claims 1-3 and 5-9. Applicants respectfully submit that the pending claims are not anticipated by Sun for the reasons provided below.

Independent Claim 1

Claim 1 has been amended to remove reference numbers, to correct informalities, and to replace the term “and/or” with the term “and.” As amended, claim 1 recites:

“A receiver for a multi-carrier communication system, the receiver comprising:
a channel corrector for receiving an input signal and a correction control signal to correct an amplitude and a phase of the input signal to obtain a corrected signal, and
a channel estimator comprising a slicer for performing a hard-decision on the corrected signal to obtain a decided signal, the correction control signal being dependent on a difference between the input signal and the decided signal to decrease said difference.” (emphasis added)

Sun does not disclose “*a channel corrector for receiving an input signal and a correction control signal to correct an amplitude and a phase of the input signal to obtain a corrected signal*” (emphasis added) as recited in amended claim 1. Sun discloses a frequency domain equalizer (FEQ) (603), see FIG. 6 and paragraph [0066].

However, Sun does not disclose that the frequency domain equalizer (FEQ) (603) changes an amplitude and a phase of an input signal.

Because Sun does not disclose “*a channel corrector for receiving an input signal and a correction control signal to correct an amplitude and a phase of the input signal to obtain a corrected signal,*” (emphasis added) as recited in amended claim 1, Sun does not disclose all of the limitations of amended claim 1. Thus, Applicants respectfully assert that amended claim 1 is not anticipated by Sun and now in the condition for allowance.

Dependent Claims 2-3, 5-6, and 8-9

Claims 2-3, 5-6, and 9 have been amended to remove reference numbers. Additionally, claims 2, 5 and 6 have been amended to correct informalities. Amended claims 2-3, 5-6, and 8-9 depend from and incorporate all of the limitations of independent claim 1. Applicants respectfully assert that claims 2-3, 5-6, and 8-9 are allowable at least based on an allowable claim 1.

Independent Claim 7

Claim 7 has been further amended to remove reference numbers, to correct informalities, and to replace the term “and/or” with the term “and.” As amended, claim 7 includes similar limitations to amended claim 1. Because of the similarities between claim 1 and claim 7, Applicants respectfully assert that the remarks provided above with regard to amended claim 1 apply also to amended claim 7. Accordingly, Applicants respectfully assert that Sun does not disclose all of the limitations of claim 7. Thus, Applicants respectfully assert that claim 7 is not anticipated by Sun.

Claim Rejections under 35 U.S.C. 103

Claim 4 is rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Sun. In response, claim 4 has been amended to remove reference numbers and to replace the term “correction signal” with the term “correction control signal.” Applicants respectfully submit that the pending claim is patentable over Sun for the reasons provided below.

Claim 4 depends from and incorporates all of the limitations of independent claim 1. Thus, Applicants respectfully assert that claim 4 is allowable at least based on an allowable claim 1.

New claims 10-15

New claims 10-11 depend from and incorporate all of the limitations of independent claim 1. Applicants respectfully assert that claims 10-11 are allowable at least based on an allowable claim 1. Additionally, claims 10-11 are allowable for further reasons, as described below.

New claim 10 recites:

“A receiver for a multi-carrier communication system as claimed in claim 4, wherein the filter is further configured to generate an updated channel estimate, the updated channel estimate being defined as:

$$EC = \alpha NE - (1 - \alpha)IE,$$

wherein EC is the updated channel estimate, NE is the difference signal, IE is the initial estimate, and α is a predefined value.” (emphasis added)

Applicants agree with the Office Action that Sun does not teach filtering of a signal. New claim 10 recites a specific filtering process. As a result, Applicants respectfully submit that it would have not been obvious for one of ordinary skill in the art at the time of the invention to incorporate the specific filtering process of new claim 10 into the receiver of Sun. Accordingly, Applicants respectfully assert that claim 10 is not obvious over Sun.

New claim 11 recites that “*the channel estimator further comprises an averaging unit configured to average the initial estimate and the difference signal*” (emphasis added). Applicants respectfully assert that Sun does not teach the above-identified limitation. Additionally, Applicants respectfully submit that it would have not been obvious for one of ordinary skill in the art at the time of the invention to incorporate the averaging unit of new claim 11 into the receiver of Sun. Thus, Applicants respectfully assert that claim 11 is not obvious over Sun.

New independent claim 12 recites “a channel corrector for receiving the input signals and a correction control signal to correct a common phase error and a common amplitude error of each of received data carriers to obtain corrected signals, wherein the common phase errors of the received data carriers are identical, the common amplitude

errors of the received data carriers being identical” (emphasis added). Applicants respectfully assert that Sun does not disclose the above-identified limitation. Thus, Applicants respectfully assert that claim 12 is patentable over Sun.

New dependent claims 13-15 depend from and incorporate all of the limitations of independent claim 12. Applicants respectfully assert that claims 13-15 are allowable at least based on an allowable claim 12. Additionally, claims 14-15 are allowable for further reasons, as described below.

Claim 14 includes similar limitations to claim 10 and claim 15 includes similar limitations to new claim 11. Because of the similarities between claim 10 and claim 14, Applicants respectfully assert that the remarks provided above with regard to claim 10 apply also to claim 14. Accordingly, Applicants respectfully assert that claim 14 is patentable over Sun. Additionally, because of the similarities between claim 11 and claim 15, Applicants respectfully assert that the remarks provided above with regard to claim 11 apply also to claim 15. Accordingly, Applicants respectfully assert that claim 15 is patentable over Sun.

CONCLUSION

Applicants respectfully request reconsideration of the claims in view of the amendments, the new claims, and remarks made herein. A notice of allowance is earnestly solicited.

Respectfully submitted,

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